

WHAT IS CLAIMED IS:

1                   1.       A method for migrating a block of data within a storage system,  
2 comprising:  
3                   migrating first data stored in a first storage volume of a first storage subsystem  
4 to a second storage volume in a second storage subsystem, the first data being a block of data  
5 that is presented to a host so that the first data may be accessed by the host;  
6                   copying first setting information relating to the first data from a first setting  
7 volume to a second setting volume, the first and second setting volumes provided in the first  
8 and second storage subsystems, respectively, the setting information including retention  
9 information associated with the first storage volume; and  
10                  presenting the second storage volume to the host, so that the host may access  
11 the first data stored in the second storage volume via a communication network.

1                   2.       The method of claim 1, wherein the first setting information is stored  
2 in a different storage location from that of the first data.

1                   3.       The method of claim 1, wherein the first setting volume is provided in  
2 the first subsystem and the second setting volume is stored in the second subsystem.

1                   4.       The method of claim 1, wherein the migration is initiated by an  
2 operator.

1                   5.       The method of claim 1, wherein the migration is automatically initiated  
2 by a control module according to a predefined rule.

1                   6.       The method of claim 1, wherein the setting information includes  
2 attributes and permission information as well as the retention information for one or more  
3 blocks of data managed by the storage system.

1                   7.       The method of claim 6, wherein the permission information indicates  
2 one or more attributes that may not be changed while a retention period for a given block of  
3 data has not expired.

1                   8.       The method of claim 6, wherein the first data is migrated from the first  
2 storage volume to the second storage volume after a first retention period for the first data has  
3 expired, the retention information defining the first retention period.

1                    9.        The method of claim 8, further comprising:  
2                    migrating the first data from the second storage volume to a third storage  
3 volume after a second retention period for the first data has expired; and  
4                    copying second setting information from the second setting volume to a third  
5 setting volume,  
6                    wherein the first, second, and third storage volumes are defined on disk  
7 devices,  
8                    wherein the retention information defines the second retention period.

1                    10.      The method of claim 1, wherein the first and second storage  
2 subsystems are disk array units.

1                    11.      The method of claim 1, wherein the presenting step includes an  
2 emulation module associated with the second storage subsystem emulating a first storage  
3 volume number and a first serial number assigned to the first storage volume of the first  
4 storage subsystem.

1                    12.      The method of claim 11, wherein the first storage volume number is a  
2 Logical Unit Number.

1                    13.      The method of claim 1, wherein the first storage volume is a Logical  
2 Unit, the method further comprising:  
3                    detaching the first storage volume from a first Logical Unit Number (LUN), so  
4 that the first LUN may be attached to another storage volume.

1                    14.      A storage system, comprising:  
2                    a first storage subsystem coupled to a host, the host being configured to access  
3 first data stored in a first storage volume that is provided in the first subsystem, the first data  
4 being associated with first setting information stored in a first setting volume of the first  
5 subsystem, the first storage volume being associated with a first storage volume number to  
6 enable the host to access the first storage volume via a first communication link, the first data  
7 being a block of data; and  
8                    a second storage subsystem coupled to the first storage subsystem and the  
9 host, the second subsystem including a second storage volume to receive the first data from  
10 the first storage subsystem via a second communication link and a second setting volume to

11 receive the first setting information from the first setting volume, the second subsystem  
12 further including a storage emulator to associate the first storage volume number to the  
13 second storage volume to enable the host to access the first data stored in the second storage  
14 volume,

15 wherein the first data are migrated from the first storage volume to the second  
16 storage volume after a retention period defined for the first data has been expired.

1 15. The storage system of claim 14, wherein the setting information  
2 includes retention information which defines the retention period.

1 16. A storage system configured to provide data migration of a block of  
2 data, the storage system comprising:

3 means for migrating first data stored in a first storage volume of a first storage  
4 subsystem to a second storage volume in a second storage subsystem, the first data being a  
5 block of data that is presented to a host so that the first data may be accessed by the host;

6 means for copying first setting information relating to the first data from a first  
7 setting volume to a second setting volume, the first and second setting volumes provided in  
8 the first and second storage subsystems, respectively; and

9 means for presenting the second storage volume to the host, so that the host  
10 may access the first data stored in the second storage volume.

1 17. The storage system of claim 17, wherein the first setting information  
2 includes retention information for the first data.

1 18. A computer readable medium including a computer program for  
2 migrating a block of data, the computer program comprising:

3 code for migrating first data stored in a first storage volume of a first storage  
4 subsystem to a second storage volume in a second storage subsystem, the first data being a  
5 block of data that is presented to a host so that the first data may be accessed by the host;

6 code for copying first setting information relating to the first data from a first  
7 setting volume to a second setting volume, the first and second setting volumes provided in  
8 the first and second storage subsystems, respectively; and

9 code for presenting the second storage volume to the host, so that the host may  
10 access the first data stored in the second storage volume.

1                    19.     The computer program of claim 18, wherein the first setting  
2     information includes retention information for the first data.